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U.S. Department of Agriculture

Some Information  
about the Root

# “SANG” OR GINSENG

AND

## CULTURAL DIRECTIONS

BY HARLAN P. KELSEY

SECOND EDITION

BOSTON, FEBRUARY 15, 1900



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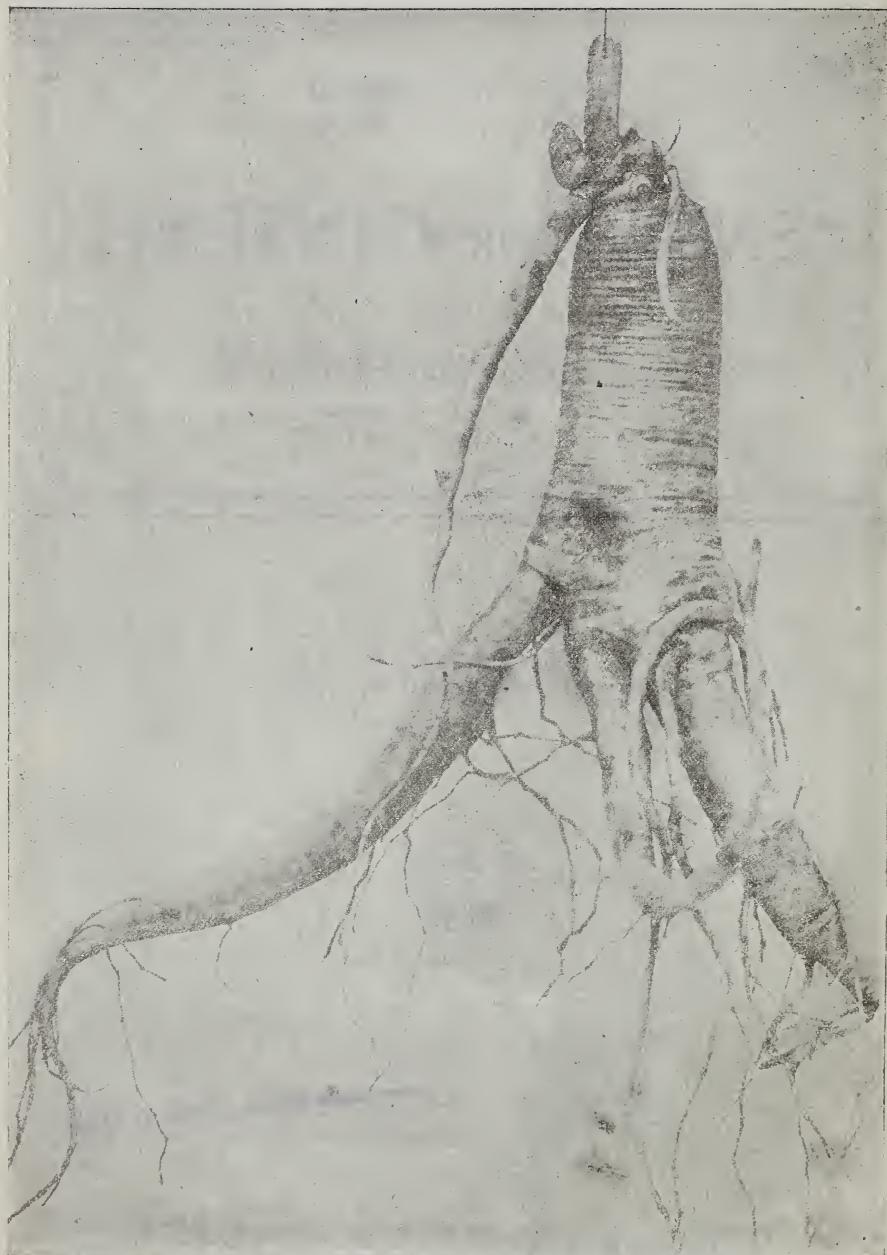


FIG. 1. A root of the fourth year, showing annual stem and bud at the top. Natural size.

(Bull. 78, Ky. Agr. Exp. Sta.)

# American Ginseng.



THE CULTIVATION of American Ginseng (*Aralia quinquefolia*) in this country is receiving much attention at the present time. That Ginseng can be grown successfully and with great profit if given proper conditions of soil and treatment, is now beyond question.

At the present time Ginseng commands a cash price in the open market of from \$2.50 to \$4 per pound for the dried wild root, while the cultivated root brings as high as \$6 to \$8 per pound.

To show how the supply of Ginseng has diminished, and the price increased, the following figures from reliable sources are quoted: In 1821, 352,992 pounds were exported at a value of \$171,786, or 48 cts. a pound, while in 1897, 179,573 pounds were exported at a value of \$840,686, or \$4.68 per pound.

This export consists almost entirely of wild roots, as only recently has the cultivation of Ginseng been successfully attempted in America, although it has been grown in China, Japan and Korea for a long time—the industry being a government monopoly in the latter country.

The above figures conclusively show that the supply is entirely inadequate to the demand, and that the wild root is becoming scarcer each year. Eventually it must become a cultivated crop, but the fact that it takes from four to six years' growth before it is properly ready for the market will keep many from attempting its culture, though making returns larger and more sure for those who devote the necessary care and attention to its cultivation.

The extremely high value of Ginseng being thus conclusively proved, it only remains to be shown that its culture can be made a success.

The conditions can be stated in a few words: A rich, cool, loamy, loose soil, shade, and a heavy mulching of wood leaves



FIG. 2. American Ginseng.  
(Bull. 16, Div. of Publications, U. S. Dept. of Agr.)

or similar covering in autumn, which is left on during the next summer to decay and conserve moisture. Ginseng will thrive in almost any rich garden soil if given shade and moisture and constant cultivation.

This is the secret of growing Ginseng, and although there are many ways of applying the above principles, still if these points are kept in view there can be but little doubt of success; and where the conditions do not exist naturally, they can usually be artificially furnished.

For those who intend planting on a large scale, the following suggestions will aid in making a proper start. First, where possible, select a cool, moist piece of ground, prefer-



FIG. 3. Fresh roots of Ginseng from cultivated plant. *a*, 1 year old; *b*, 2 years old; *c*, 3 years old; *d*, 4 years old; *e*, bud; *f*, leaf scar.

(Bull. 16, Div. of Publications, U. S. Dept. of Agr.)

ably level or nearly so, and where there is natural loam, or where the ground is loose and rich. Well-rotted stable manure is good for bringing up garden soil to a proper condition, as is also leaf-mold, rotted sods, etc. The ground must be fertile. Sandy soil, if rich and moist, is not objectionable, but rather desirable; but in any case, the drainage must be good.

**Propagation from Seed.**—There are about 8,000 Ginseng seeds to the pound. As a rule it takes eighteen months for the seeds to germinate; if the seeds are planted out for this length of time, there is danger of losing most of them from the depredations of field mice and ground squirrels, and it is, therefore, far wiser to stratify them for about twelve months and then plant out in beds. The care of the beds for a season is also thus saved. To stratify the seeds, place a layer, say 3 inches deep, of moist sand or leaf-mold and loam

over the bottom of a strong, tight box, then scatter a thin layer of seeds over this and cover with an inch of the sand or loam.

After filling the box in this manner, see that there are several inches of the covering over the last layer of seed, to prevent drying out. A wire netting of fine mesh should be securely tacked over all, to prevent the attacks of mice. The whole should be kept in moist cellar, or may be left out of doors if the box is plunged level to the top in soil.

In planting the seeds, they should be scattered evenly and thinly on a prepared bed and covered with an inch or more of fine soil. The planting thus being done in the fall, twelve months after the seeds are collected, they should then be covered with leaves and straw, or similar covering, over which brush is laid. In the early spring the brush is removed and lath shade covers substituted.

The beds may be made either 4 or 6 feet wide, and any length, and should always be surrounded by boards firmly nailed to posts, giving a rest for the lath shades. The boards used are of ordinary inch boxing, and should extend 2 feet or more from the ground.

Where 6-feet-wide beds are made, the lath covers are made as shown in the illustration; viz.,

4 by 6 feet. Ordinary laths are nailed 1 inch apart to 6 feet strips 1 inch thick and 2 inches wide, and then braced. Where the bed is made 4 feet wide, the laths are simply nailed to other laths with clinching nails. The latter size, being lighter, are the most easily handled covers, but the larger beds and shades are the most economical of room and lumber where the planting is on an extended scale. These lath covers are to stay on all summer, to be replaced by mulching and brush in winter. The beds and subsequent treatment after planting are the same for both seeds and plants.

**Planting.**—After one season's growth, the seedlings should be transplanted into permanent beds in the fall, after the tops have died down. Some prefer to wait till the second autumn, but the roots are more liable to be injured, and it is very important that a good, clean taproot is preserved, making at maturity a larger and more salable article, that will command the best price.

A planting-board (see Fig. 7) is made of  $\frac{3}{4}$ -inch white pine, or similar wood, 5 feet 9 inches or 3 feet 9 inches long, and 1 foot wide, to easily fit in the 4-feet and 6-feet beds.

This board is braced by light strips tacked across the ends and middle to prevent warping, and notches 5 inches apart are cut on the edges. A trench is then opened, by using a light spade and lifting the dirt away from the board, the back of the spade being flat against the edge of the board, on which the planter is standing.

The plants are set at the 5-inch intervals, care being taken to see that the roots are in straight, and the crown at



FIG. 4. Wild root (human form).  
(Bull. Dept. of Agr., Penna.)

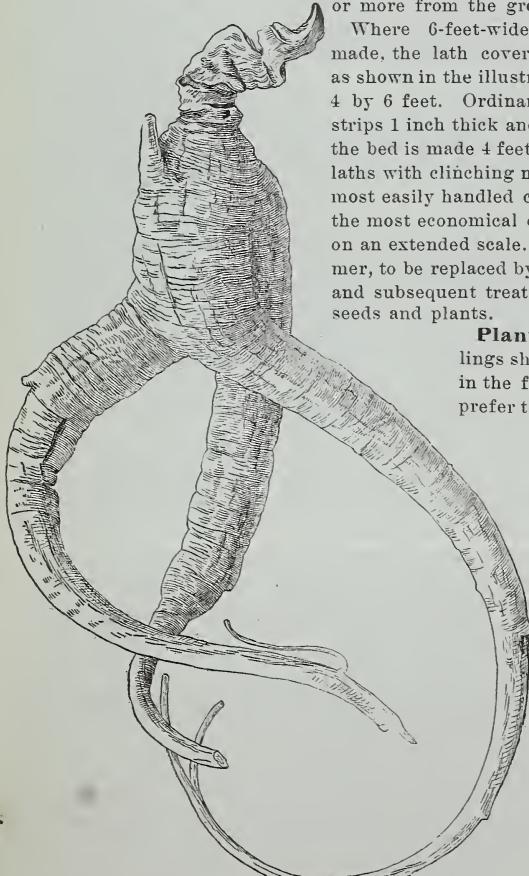


FIG. 5. Dried root of Ginseng from wild plant.  
(Bull. 16, Div. of Publications, U. S. Dept. of Agr.)

least an inch below the surface. Dirt is pulled in with the hand as each plant is set, and after firming the row with the foot, the bed is smoothed off with a fine-toothed rake. The middle of the board is then placed directly over the row, and the planting of the next row is

proceeded with. This leaves the plants 5 by 6 inches apart, each row containing 15 plants in a 6-feet-wide bed. To find out the number of plants such a bed will hold, multiply the length of the bed in feet by 30.

Some prefer sowing the seeds singly in drills 2 or 3 inches apart, and at intervals of 1 to 2 inches apart in the row. In this event the same planting-board can be used, only the notches on one edge must be cut the required distance

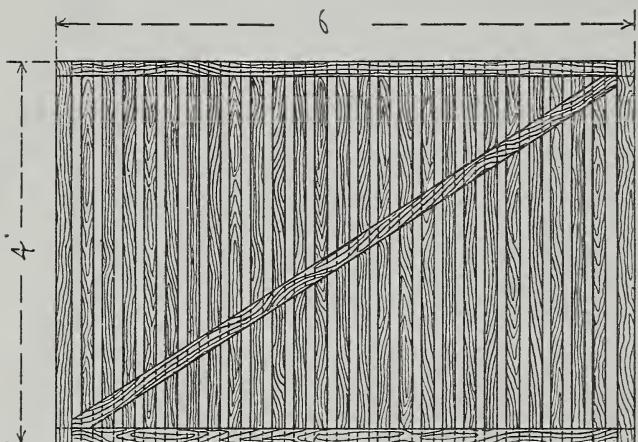


FIG. 6. Lath shade.

apart, the rows being 3 inches or less apart instead of 6 inches, as in the case of the plants.

As shown in the illustration (Fig. No. 8), the shading in summer may also be accomplished by raising the lath covering on a framework of scantling firmly attached to posts, and high enough to permit of standing under it.

The beds, however, should be boxed in as before noted, and on the approach of winter the sections of lath covering are removed to a barn or other dry place. This makes a rather elaborate structure, but is really preferable to the beds being covered individually, allowing cultivation without handling of the shades. Each spring the beds should receive a fine dressing of very rich loam, which is to be scattered over the old leaf mulching. But all the weeds must be pulled out as they appear, and the spaces between the rows kept stirred up loose with a small hoe or weeder, great care being taken not to strike and injure the roots or tops.

As the seed ripens it should be collected immediately and stratified as before mentioned, and it occasionally will come up the following season.

Ginseng can be grown under the shade of trees, but this method is not so satisfactory as the cultivation under artificial covering, and, excepting on a small scale, is not recommended.

In any event, where possible, the Ginseng garden should be planted on ground sheltered from strong, prevailing winds.

**Preparing for market.**—After the roots are of sufficient size, that is, from 3 to 5 ounces or more in weight green, dig very carefully, without bruising or breaking, and after washing perfectly clean in fresh water, place on wooden trays or boards, to dry in the sun where possible.

Or, the roots may be spread evenly and thinly on trays in a warm room. Too rapid drying is not desirable, and where the quantity to be dried is considerable it would pay to buy a small evaporator. It takes about 3 pounds of green root to make 1 pound of perfectly dry marketable article.

The small, fibrous rootlets should be cleaned off during the drying process, as a better

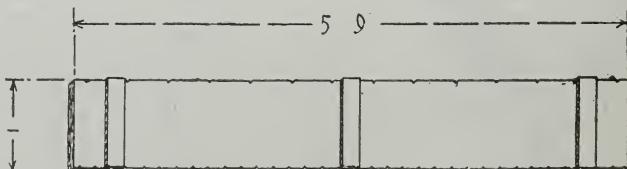


FIG. 7. Planting-board.

price is commanded for large, smooth roots. After making sure that the roots are perfectly dry, cool off, and weigh out at once in paper sacks of one to two pounds, finally packing in clean boxes of ten to twenty-five sacks each. If it is undesirable to dispose of the dried root at once, it would be best to pack in air-tight glass jars or seal in tins, to prevent damage caused by the boring beetle, which is said to attack it.

The roots, also, should be carefully graded according to size, appearance and weight, and marked accordingly on the outside of the packages before shipping.

The best markets are New York, Cincinnati and San Francisco, from whence almost the entire product is shipped to China, whose people value it as a panacea for nearly all human ills.

With these instructions followed, success should be made of growing Ginseng, and the element of profit is so large as to be rather startling.

The greatest discouragement in growing Ginseng is the depredations of thieves. The root is so extremely valuable that if the location of a plantation is generally known, the crop would stand but little chance of maturing without at least a part being stolen.

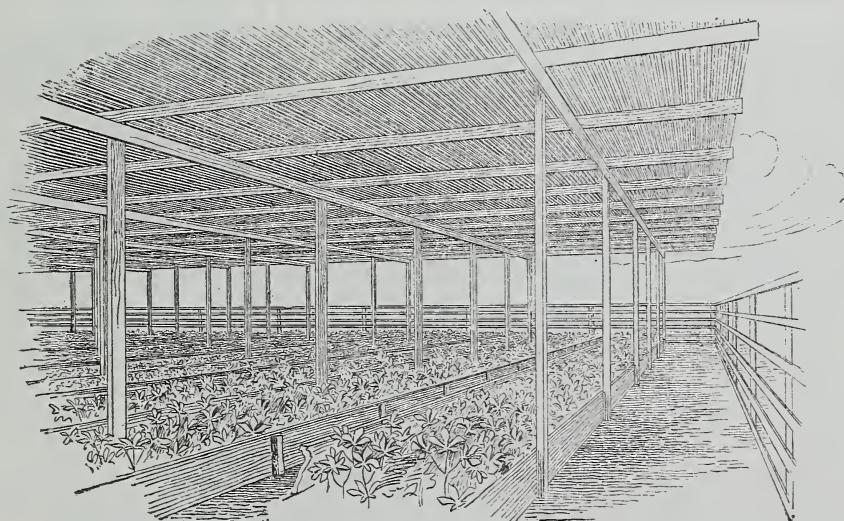


FIG. 8. Ginseng growing under lath shed.

It will pay, as a rule, to erect a high solid wall with barbed wire on top, and to keep the crop a secret. An electric wire can be arranged around the plantation at little cost, which will ring a bell or bells located where desired if an entry be forced.

Any very valuable article finds ready thieves if unprotected—Ginseng being no exception to the rule—but it is amply worth any expense incurred in protecting it.

To conclude, it will be observed that with ordinary attention to details Ginseng can be grown with large and sure profits.

Any questions that may arise I will gladly answer.

It seems probable that Ginseng can be grown in every state of the Union if the required conditions naturally exist, or are produced artificially.

A map (Fig. No. 9) showing the natural range of the Ginseng plant in the United States, prepared by the United States Department of Agriculture, is given on page 8.

Ginseng is probably sparingly found growing wild in other states, and at one time was abundant in Ontario and Quebec, but has now become rather scarce, as it has been so energetically hunted by native "sang" diggers. This is the reason, also, for its present rarity in the United States.

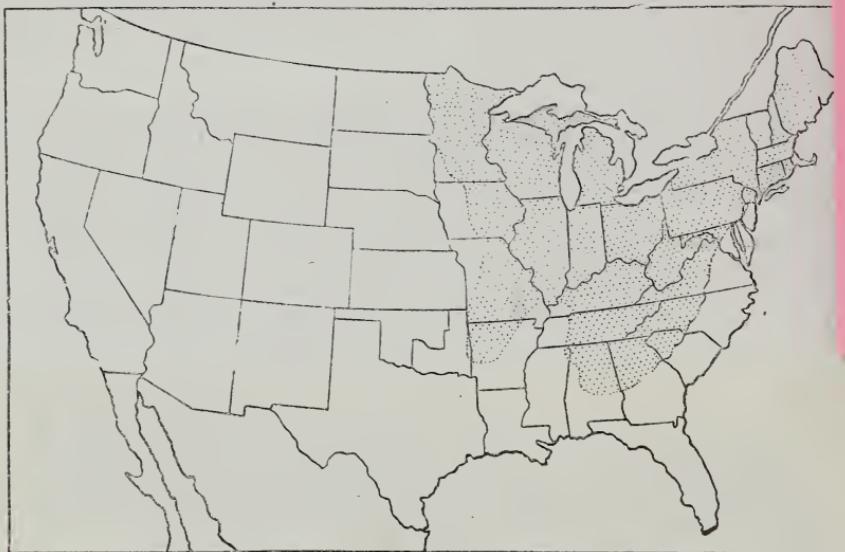


FIG. 9. Map showing the natural range of the Ginseng plant in the United States.

## PRICES.

Plants are graded in four sizes, and prices will be gladly sent on application. Special prices on large quantities. Orders for seed taken conditionally, and fulfilment not guaranteed, as present means of securing supply is extremely limited.

**Orders should be placed at once, and shipment can usually be made at any time from August till April. Stock will be reserved only when cash accompanies order.**

Always address

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Tremont Building,

**BOSTON, MASS.**

Proprietor **HIGHLANDS NURSERY**, Hardy American Plants, Kawana, North Carolina, from which place all shipments are made.

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Boston, Mass.

Tremont Building,

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Yours very truly,

Any further information gladly given, and I await your early reply and order.

Please order at once. Stock reserved only when cash accompaniment is ordered.

The demand is so great I will not guarantee fulfillment of any order unless accepted. So  
Ginseng seed booked at \$5.00 per ounce. Shipments made from August till April but  
please order at once.

Extra Size	PER 100	PER 1000	Extra Size	PER 100	PER 1000
First . . . . .	\$2.50	\$20.00	First " averaging three year plants	1.50	12.00
Second " " " two	7.50	75.00	Second " " " 1.25	1.25	12.50
Third " " " one	4.00	40.00	Third " " " 1.00	1.00	10.00

The extraordinary demand for roots has entirely exhausted my stock for Spring  
1900 delivery, but orders for next August-October delivery will be booked as follows:—  
Boston, March 23, 1900.

## PRICES OF GINSENG ROOTS.

ALL PREVIOUS QUOTATIONS AND PRICES ABROGATED.